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Edited by WILLIAM HUNTING, F.R.C.V.S.

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REGISTRATION INTERFERENCE.

We have often heard that the Registration Committee was too slow in acting, but we have some evidence that when pressed by local Veterinary Societies it may act with inexcusable haste. A little while ago the Corporation of Cardiff advertised for a Veterinary Inspector and stated the conditions attached to the office. These conditions, although very similar to those adopted by other Local Authorities, gave great offence to some veterinary practitioners, with the result that a series of resolutions, framed by one V.M.S. and adopted by others, were forwarded to the Council of the R.C.V.S. Most of us thought they would be quietly buried at Red Lion Square by a resolution to "lie on the table."

Not at all. The Council took it seriously, and the successful candidate for the office was written to as follows:—"The Council have relegated the consideration of the whole matter to the Registration Committee, and that body will meet on Thursday for the purpose of consideration and report. I am directed to invite you to attend the meeting of the Committee and to give any explanation you may consider desirable."

Of course the recipient of the letter ignored the polite request, and thus saved his railway fare and hotel expenses. Whether his employers know of this attempted intimidation we are not aware, but it does seem a most ill advised proceeding for the Council to reach out its hand with only one certainty—that it must withdraw with burned fingers. To ask a man to come before a tribunal that has to do with only two offences—conviction for misdemeanour or "conduct disgraceful to him in a professional respect"—is an abuse of power or a confession of weakness that can only be excused by a strong *prima facie* case. This man's "offence" was to accept a public appointment under a Corporation, and the advertised conditions were the same as obtain in many towns where veterinary inspectors have held office for years and attained useful and valued positions.

We may all think that such conditions are not what we should like. We may hold very strongly that veterinarians should occupy more independent and more prominent positions. But we have no right whatever to abuse the authorities nor to persecute the man who accepts office. The proper and only way to improve these inspectorships is to have them filled by men who will raise their office to a higher level by good work; and to bring what influence we can to bear upon the members of local councils and corporations so that our legitimate connection with Public Health is understood and acknowledged.

A "dog in the manger" spirit does no good. It annoys Corporate bodies, causes laughter among officials, and deters our own men from tendering for positions which they only can rightly fill.

A SURGICAL CASE.

Subject.—A light cart mare, about ten years old, belonging to a contractor.

This animal stood in an end stall, just beside a window. One night an empty whisky bottle was left on the window-sill, and it was surmised that the mare switched this on to the floor with her tail and then lay down upon the broken and upturned bottom of the bottle.

But, however the accident really happened, the animal was found in the morning standing above the fragments of the bottle, with her intestines protruding from a wound in the near flank.

I examined her about 7.30 that morning. The skin wound was about four inches long, crescentic in form, situated about on a level with, but nine or ten inches in front of, the stifle joint, and directed downwards and forwards. That through the muscles, similar in size and shape, was more jagged in outline, and appeared, as the mare stood, rather below the wound through the skin. From the orifice was protruding a bladder like mass of intestine, distended with gas, and about the size of an ordinary "bowler" hat. The peritoneum still surrounded and supported the intestine, but was slightly punctured in two places, and was also extremely dirty, being simply covered with dung and pieces of straw.

I gave a very unfavourable prognosis, but was nevertheless asked to attempt treatment.

After carefully cleansing and disinfecting the protruding mass—first using warm water and then a 1 in 40 solution of carbolic acid—I returned it to the abdomen. I next inserted four or five interrupted sutures of silk through the divided muscles (the edges of which were very difficult to bring into apposition) leaving the ends long so as to project through the skin wound.

This, also, I secured with interrupted sutures, close together this time, except at the most dependent part, where I left an opening for drainage.

I then attempted to strengthen these sutures by a modification of the "quill suture." I raised a fold of skin on each side of the wound, placed a skewer alongside each fold, on the side remote from the wound, and passed three strong sutures round the skewers, *through* the raised folds of skin, and *over* (not through) the original wound.

Finally, I dusted the whole with powdered boracic acid and iodoform, placed a pad of cotton wool over this, and then stitched a long broad piece of calico tightly round the body over all. As an additional protection I then stitched two sacks together endways and secured them, also by stitching, over my calico bandage.

The mare was standing all the time, and I did not afterwards sling her, merely had her head tied up, and ordered light soft food.

I removed and replaced the bandages in forty-eight hours' time, and then continued doing so every twenty-four hours for about ten days, by which time the skin wound was practically healed.

Before this, however, the deep sutures had come away through the outer wound, and the divided muscles never united. When, therefore, the bandage was finally removed, and the skin completely healed, a ventral hernia about the size of a cocoanut remained.

The mare was put to work three weeks after the accident, and, very unwisely, was worked very hard, with the result that the hernia speedily increased to at least five times its original dimensions and still retains much the same size.

In this condition the animal has worked for over three years now, and is working still. The hernia is still reducible, and varies frequently in size, always increasing when the mare is put to hard work.

I should have mentioned that during treatment the mare showed no constitutional disturbance, with the exception of some elevation of temperature for the first three or four days. I thought the case worth recording, on account of the nature of the wound, the unfavourable conditions under which I commenced treatment, and the species of the animal.

V. S.

OAT HAIR CALCULUS.

By M. Bray, M.R.C.V.S., Docking.

Feb. 12th, 11 p.m.—Called to an eight-year-old cart horse showing abdominal pain. Had been in pain four hours, had already had two draughts Tr. Opii. Æther Nit. and Ol. Menthe Pip. Pulse a bit fast, temperature normal; quiescent intervals lasting about half an-hour. Rectal examination revealed the colon full. Gave enema soap and water with a Reid pump. Aloes ʒvi. ball and Chloral ʒvi. Left two draughts of Chloral Hydrate.

Feb. 13th, 10 a.m.—Horse still showing pain at intervals; no dung or urine passed. Left Ext. Belladonna ball, and sent attendant back for clyster funnel with instructions to use it when he'd got it.

8 p.m.—Horse walking round box, tail cocked up, straining violently, had been doing so for past two hours. Passed arm up the rectum, about 18 inches inside my hand came in contact with calculus. I had to pull several pieces off before I could get the chief part. In the recent state with fæcal matter all cleaned off weight was 15oz., measured in circumference 13in. It now is shrunk and dry, and a considerable portion has been broken off. This horse had frequently had slight attacks of pain in the preceding 18 months.

PHOSPHATIC CALCULUS.

March 16th, 2 a.m.—Called to an aged Hackney mare used in a baker's cart; been in abdominal pain for 12 hours. Mare depressed and dull pains, not violent; pulse 60, temp. 101°. Rectal examination revealed a few dry pieces of fæces in rectum and a large ovoid mass on the left. Gave an enema of soap and water, using a Smith's rectum tube, Alœtic ball ʒvi. and hypodermic injections of Atropine and Morphia, and left three draughts of Chloral.

17th 10 a.m.—Still in pain, no fœces or urine passed, ovoid mass still *in situ*. Gave balls containing Ammon Carb. ʒij., and P. Nux Vom. ʒj., another hypodermic injection, and left more Chloral.

8 p.m.—Bowels acting, mare had shown no signs of pain since 4 p.m.

Sept. 7th, 5 a.m.—Mare showing same dull pains as six months before, pulse 60, temp. normal. On making a rectal examination she strained violently, but I could feel the ovoid mass as before on the left. Enema not retained. Gave another Alœtic ball and Hypodermic of Atropine and Morphia, and left draughts of Chloral.

10 p.m.—Fæces passed, and I removed some fairly well. Pain slight and appeared passing off.

Sept. 8th.—Messenger sent to say mare all right, no need to go.

Sept. 16th, 3 a.m.—Mare in continuous pain, sweating, nostrils distended, pulse imperceptible, temp. 105. Hypodermic of Atropine and Morphia, fomentations to abdomen.

Prognosis, death in a few hours, and I would post-mortem. The fellmonger had opened the mare before receiving my message and was only able to say "the stone was in her guts somewhere, and the guts were much inflamed." Weight of calculus 8lb., measurement in circumference 1ft. 11in. This mare had been colicked three times during the twelve months before she died.

Messrs. Everett & Co. announce for publication this week a Monograph on "The Scottish Terrier," by C. J. Davies, fully illustrated from photographs.

Also "The Elements of the Practice of Comparative Medicine," by George Gresswell, L.R.C.P., L.R.C.S. (Edin.) and F. T. Barton, M.R.C.V.S.

Both works will be published at 5/- net.

ABSTRACTS FROM FOREIGN JOURNALS.

Formalin in Canker.

Schwendimann has used with success a 35 per cent. solution of Formalin in canker of the hoof and comes to the following conclusions:—

That padding the sole with a swab soaked in the solution causes a good deal of pain but results in a healthy scar in a few days, and then a 5-10 per cent. solution may be painted on daily while the animal works on the land.

That in mild cases a 5-10 per cent. solution will effect a cure if the sole is padded with it, and the pain and lameness soon disappear so that the animal can be worked.—*Schw. Arch. f. Th.*

[The Translator fancies Malcolm and others in England have also advocated the use of Formalin, but on trial he remains of the opinion that Creosote is preferable.]

Glycerine as a Food.

The use of glycerine as a food has been advocated since 1851 by various authorities in Europe and America, its cost is against its free use for the larger animals, but it may be used cheaply in the case of the smaller ones.

It is digested and assimilated under three hours and then no trace of it can be found in the fæces, urine, or sweat. It reduces the excretion of urea and also the amount normally present in the blood and tissues.—*Revista de M. V.*

F. E. P.

REPORT ON LOUPING-ILL.

(*Continued from p. 873.*)

Preventive Treatment.

When the intestinal origin of the disease became known to us, a means of securing immunity was opened up for our consideration which seemed feasible.

It is evident that sheep put upon "f ul" pasture, as time goes on become immune to both Louping-ill and Braxy. In the case of Braxy the immunity after the first year is almost complete, while in that of Louping-ill the liability to the disease lessens with the time the animals have been on the infected pasture. There is everything in favour of the theory of this natural immunity to each disease being acquired by the unfortified sheep taking up the spores of the organism from the soil and passing them through its alimentary c nal. Should West Country hoggs be wintered in the East of Scotland they are by no means proof against an attack of Braxy when they return to their native pastures, a fact pointing evidently to many of them having escaped the immunising properties of the Braxy organism during their winter's sojourn. The summer months, however, afford abundant opportunity of their picking it up, of its passing along the intestine and germinating within it, and of thus establishing a state of tolerance at a time when the the animal is not likely to be stricken with a fatal attack of the disease. Some of them, however, even under these circumstances, fail to acquire this natural protection, and die next Braxy season.

With Louping-ill the danger to sheep wintered on the East Coast is much greater, for, returning as they do to the Western Highlands about the end of March, they are face to face with the Louping-ill season immediately afterwards, that is to say, when they are in a condition of body which renders them liable to become infected. After a lapse of from a fortnight to three weeks from the date of their return, accordingly, the disease breaks out among them and causes extreme havoc. The season continues up to about the middle of June, and after this the greater number are comparatively safe. An old ewe, now and again, will take the disease, but the greatest danger is in the case of the hoggs. It is even said that an old ewe may sometimes suffer from a second attack, but there is always an element of doubt in the matter consequent upon a possible error in diagnosis.

The principle involved in our second method of prophylaxis was suggested by the above considerations relative to natural immunisation. Were the organism introduced artificially into the alimentary canal at a time when its presence is harmless, there would be every chance, as it were, of forstalling nature and of effecting an immunisation before the susceptible period arrived.

Our first experiments were carried out during the Louping-ill season, a time of year, of course, which ought to be prohibitive of any such treatment on a large scale. We were anxious to see, however, what the immunising effect might be, and whether if the animals survived and became immune, the protection would last over the following year.

We have avoided employing the organism in the sporing phase of its life-history. In our largest experiments we have always used it in the rod stage, and grown usually upon glucose-beef tea. Our observations have shown us that when the Braxy bacillus is thus introduced into the alimentary canal of the sheep, it is not destroyed in the stomach or intestine, but makes its appearance in the dejecta within a day or two, and can be recovered from them. In its passage it forms spores abundantly, but this natural method of sporing does not seem to be anything like so dangerous as that of introducing the spores directly into the stomach.

The method of administration by the mouth has the additional advantages over that of subcutaneous inoculation in not causing any perceptible disturbance in the state of the animals operated upon, of not inducing any lameness, and, so far as we know, not interfering with the ordinary course of utero-gestation.

General Summary of Conclusions.

1. The disease is one which prevails mostly along the west coast and south of Scotland and the north of England, probably also along the west coast of Ireland. It does not appear to be recognised as yet in countries other than the British Isles.

2. The symptoms are ushered in with dulness and reeling gait, to be followed by choreic spasms, or tetanus-like rigidity, and terminating in more or less complete paralysis of the extremities. The duration of the ailment is usually from one to five or six weeks, but some cases terminate acutely in from three to four days.

3. The mortality in badly infected districts runs from ten to fifty per cent., and is always highest when sheep are shifted from "clean" to "foul" pasture.

4. The carcase, apart from the development of gas in the abdomen, does not, as a rule, present any striking abnormality, a few punctiform haemorrhages along the course of the intestine being almost the only recognisable tissue-lesion. The peritoneal liquid, however, in a large number of instances, is fairly abundant, and either presents a turbid appearance, or is perfectly clear and apparently unaltered.

5. A rod-shaped organism is found in the intestine and peritoneal liquid, which is the cause of the disease. It is practically always absent from the blood, tissues, and cerebro-spinal liquid. The rod in question is of large size, has a coarse appearance, and spores prolifically, the spores being relatively large, of oval shape,

and of brown colour. It appears to be a strict anaërobe. So abundant is the organism sometimes in the intestine that the mucous membrane may literally be plastered over with it, and where the peritoneal liquid has a turbid appearance, is present within it in truly enormous numbers. Where the peritoneal liquid is clear, on the contrary, it may not be recognisable microscopically at first, but always develops luxuriantly on being incubated at 37° to 38° C.

6. The organism is inoculable on the sheep when injected subcutaneously, or administered by the mouth to susceptible animals, and when it has established itself upon the tissues and liquids of the body always kills the animal, and that within a space of from eighteen to forty-eight hours.

7. Its poisonous properties are due to a toxine contained within the substance of the bacilli itself, not in the liquid in which the bacillus may be growing. The bacillus evidently finds its way from the intestine into the blood, is dissolved or bacteriolysed by it, and the poisonous elements being thus liberated come to act on the spinal cord, stimulating it and thus accounting for the spasms and ultimate paralysis.

8. The organism is essentially intestinal in its habitat, and gains entrance to the body of the sheep along with the fodder. There is no evidence to show that the poison is introduced by the bite of the tick. If such a thing ever does occur, which we doubt, it must be so exceptional that the tick as an infecting agent may almost be put out of account. There is a possibility, however, if the body of the tick be contaminated with the parasite and ingested, that the disease may be conveyed in this way, but even in this case the risk of contagion must be exceedingly small.

9. The outstanding sources of contagion are the fæces and carcase of the infected animal. The fæces are laden with the spores of the bacillus in almost inconceivably great numbers, and naturally the spores become scattered over the pasture. In this, they can remain dormant possibly for years, and still retain their virulence, to be taken into the alimentary canal of a fresh host, it may be, at some date far distant from that of their being voided. The carcase, of course, if left exposed, will prove a fertile centre of contagion, and ought always to be destroyed or buried. Carnivorous birds, such as the rook or crow, may convey the virus from a carcase. It passes through the intestine of the rook in a sporing condition, and, of course, may be spread abroad by it. The amount of contamination, however, from this cause must be insignificant compared with that from the manure and carcase of the infected sheep, and it is questionable whether any widespread infection of pasture is accounted for by this agency.

10. The reason for the sharp demarcation of "foul" from "clean" pasture is to be found in most cases in the manure of the infected sheep spreading contagion broadcast on the one side, while that on the other is free from the elements of contagion. From the fact of the eastern half of Great Britain being practically free from the disease while it prevails on the West Coast, there are probably certain climatic or other conditions, as yet not understood, which favour its propagation.

11. Once a pasture has become thoroughly contaminated it would most likely require a recess from sheep-farming of many years before it would recover itself, and hence such method of purification is almost hopeless from an agricultural point of view.

12. Although sporadic cases may crop up during the late autumn months the spring months are those in which the disease reaches its acme. The cause of this appears to be the fact that the blood of the sheep during the months of truce is eminently destructive or bactericidal to the organism in question, and absolutely prohibits its passage from the interior of the intestine. During the Louping-ill season, however, the blood is less bactericidal than during the immune periods and permits of certain of the bacteria contained in the intestine getting over into the blood or lymph. These are ultimately destroyed and dissolved by the blood and their toxines liberated, with the result that the toxines come to act on the central nervous system. The organism finally begins to germinate in the peritoneal liquid and very soon after this the animal dies.

13. A natural process of immunisation goes on in "seasoned" sheep, and those which die in the spring months have not acquired this. The means by which the former have become immune is that they have taken the organism into the alimentary canal at a time when they are insusceptible to the disease.

14. The clear indications for preventive treatment, therefore, are to imitate nature as far as possible—to administer the organism at a time when it proves harmless.

15. Two methods of administration were open to us, namely, by subcutaneous injection and by administration by the mouth. The former we found to be an extremely dangerous, and, in part, an inefficacious method, the latter, on the contrary, is free from danger and has proved completely successful. It possesses the additional advantage of being applicable in the hands of unskilled operators.

16. The prophylactic consists of the bacillus grown on glucose beef tea from spores contained in the peritoneal liquid of an animal dead of Louping-ill, and this, mixed with a little water, is administered by the mouth on two occasions with an interval of a week to ten days between them, and during the month of January. The simplicity of the operation is one of its great recommendations. We have treated a certain number of sheep with a single dose and with perfect success, but recommend, as yet at any rate, the method of double dosing, as being more likely to insure the accomplishment of the result desiderated.

SOME OUTLINES OF MEAT INSPECTION.*

The underlying principle of meat inspection is the exclusion from the food supply of meat which is described by the Public Health (Scotland) Act, 1897, as being "diseased or unsound or unfit for the food of man." That is the purpose of meat inspection in a nutshell, and I will now proceed to deal with the outstanding points of the subject.

"*Unsound and Unfit.*"—It is often necessary to exclude from the food supply meat which is not dangerous to health, but which, on account of abnormal physiological and even pathogical conditions, is rendered unfit or undesirable as food. A few concrete examples will best illustrate this point. It frequently happens that a dairyman's cow will slip in her stall and fracture some bones, say, the bones of the pelvis. If the dairyman is wise, the animal is at once killed and bled. When brought to the slaughter-house and dressed as for human food, it is found that considerable laceration of muscle has occurred, and also a great deal of internal bleeding from the ruptured blood vessels. The inspector will cause all the damaged bone and muscle to be cut away from the carcase. This is most economically accomplished after the carcase has hung in a cool place for at least twenty-four hours and has become "firm." The damaged tissue is then seized as being unfit for food and the rest of the carcase passed, if the cow has been otherwise healthy, and if the preliminary operations were carried out with dispatch.

* A lecture delivered by Mr. James Henderson, M.R.C.V.S., before the Edinburgh Sanitary Society, on 24th February, 1906. (See p. 826, May 19, and p. 788, May 5.)

It is, however, in the case of such an accident, a very simple matter to spoil such a carcase for food purposes. The owner may begin te treat the animal, and in this way cause such delay that the inflammation caused by Nature's effort at repair, and the agony of lacerated nerves, induce a state of fever which renders the whole carcase unsound. The flesh on section will, after twenty-four hours, be dark, and may be adhesive to the touch. Or, again, the animal may be killed and bled as soon as the accident is discovered, and may be allowed to lie in the stall or elsewhere for many hours before it is dressed. In this case the bacteria which normally inhabit the bowels penetrate to the abdominal walls and induce an early decomposition of the carcase, which is thereby rendered unsound.

Emaciation.—Extreme leanness in an animal is the result of starvation or disease. A diagram to portray this condition is unnecessary. You have all seen cattle foods advertised with two pictures upon the label, one of which depicts the dire effects upon an animal when this food is withheld from it. "Before taking" may be suggested as a type of emaciation. Most herds of food animals have their weaklings, and the larger the herd the greater is their relative number. Insufficient suckling may have enfeebled their constitutions, or excessive timidity may account for their ill success in the competition for the available food supply. Old age in animals tends to produce emaciation, because of decaying assimilative power and defective teeth, &c. Of course, disease in many forms produces the same effect with a more rapid action. Leaving disease for the moment out of account, very lean carcases require the closest attention. After being allowed to hang for twenty-four hours in a suitable place, if the flesh is not dry and firm, but is damp and flaccid, these carcases should be seized as unsound.

Yellow Fat and Icterus.—There is an obscure condition deserving mention here. Occasionally, among a lot of carcases, be they cattle, sheep, or pigs, one or more of their number have a marked yellow colour. It is said to be due to feeding, but they occur in lots which have all been fed in the same manner. The real cause is at present, I believe, unknown. Such carcases are usually well nourished, and, when more closely inspected it is found that only the fat is yellow, the other tissues being normal and the carcase sound. This condition must not be confounded with a disease called icterus or jaundice. In icterus the yellowness pervades not only the fat, but the muscles and internal organs. Such carcases should not be passed as sound.

"*Choking.*"—Another abnormality which is not uncommon is the condition of a carcase when an animal has been choked. A potato or a piece of turnip is usually the offending agent. Most of such cases are usually relieved by prompt treatment, but sometimes, from neglect or other causes, the animal is not relieved, and a serious condition arises. There are grave constitutional disturbances, and the animal swells enormously. At this point a fatal issue is feared, and the animal is slaughtered and the carcase dressed as for human food. If killed when the animal is at the point of death, the carcase does not dry nor become firm in twenty-four hours. The muscles, when cut, exhibit a light slate colour, and the cut surface emits a very distinctive odour. This meat may fairly be described as unfit. It may be well to remind you, in connection with odorous meat, that flesh very readily absorbs certain odours. For example, carcases, or portions of them, which have hung in a chamber or a truck which has been newly disinfected with lime chloride or carbolic acid, absorb the distinctive odours of both these agents.

We must now pass to the major part of our subject, namely, diseases which are caused by the invasion of the body by parasites, and we have only time to speak of those which are most typical or most dangerous. These parasites are either animals, such as worms, or plants, such a bacteria. Of those animal parasites transmissible to man only four will be described—the pork and the beef measle, with their respective tapeworms; the tœnia echinococcus, and the trichina spiralis.

The Pork and Beef Measle.—The pork measle is found usually between the muscle fibres. Its size varies from a pin-head to that of a small pea, according to the stage of growth in which it is found. It is oval in shape. When alive it is greyish and translucent with a central lighter coloured spot, where the head is located. This measle is a little bladder worm with the head and neck pushed back inside the bladder, that is, invaginated. The head when extended bears four suckers and a circle of hooklets. In a pig infested by them they are often thickly scattered throughout the muscles, but they may also be few in number. The internal organs are usually free, except that the heart sometimes exhibits them.

The beef measle resembles that of pork, except that it is longer and more pointed at the ends. The head of the beef bladder worm differs from that of the pork one in that it bears no circle of hooklets, but it has the four suckers. It may be found in any of the muscles of the body, but its preferential location is the neighbourhood of the mouth, in the muscles of the cheeks and tongue, etc. It is often localised there.

In view of the fact that these bladder worms of pork and beef are the larval forms of tœnia solium in the case of pork, the tœnia saginata in the case of beef, their fate is, to say the least of it, interesting, considering that both can attack man. The mature measle, fortunately, often dies of old age in the body of its host. It then becomes small, white, and gritty, having died and become calcified. If a fully developed measle of either kind finds its way into a British kitchen it is almost certain to meet with a violent death in the pot or oven But in Continental countries, where half-cooked or even raw meat is eaten, it may be ingested in the living state. When this occurs the digestive fluids of the stomach dissolve the bladder containing the head and neck. The latter being thus free attach themselves to the wall of the intestine, the head of the pork measle by means of its hooklets and suckers, and the head of the beef measle by means of its four suckers alone. When thus securely anchored to the intestinal wall the neck grows down the intestine and broadens as it grows, till the long, flat, ribbon-like tapeworm is formed. It grows by absorbing the digested food in the intestine through its skin. The transverse markings indicate the limits of each section or segment, each of which is practically independent of the others. The ripe segments—those furthest from the head—become detached, and are voided with the excreta. These mature segments contain many thousands of eggs. When on the ground these segments dry and rupture, and the eggs are scattered by wind and rain, and vast numbers of them are thus carried to pools and streams, which often constitute the water supply of farm livestock. In this way these eggs find their way into the mouths and stomachs of cattle and pigs, and there the shells are thinned or digested, so that the contained embryos escape out of the eggs. These embryos have the power of burrowing through the wall of the stomach and mouth, and thus find their way into the neighbouring muscles, or into the blood stream by which they are carried to distant muscles. When they have reached a suitable place in the muscles each embryo settles there and grows into the bladder worm which constitutes the "measle." This, briefly, is the life cycle of the tapeworm.

Of the two tapeworms under review the tœnia solium is the more dangerous as well as the more numerous. The existence of the tœnia solium in the intestine of a man is not in itself a very serious matter, but there is grave risk in the fact that the mature segments may rup-

ture inside the digestive track, and that embryos escaping from the eggs may penetrate the bowels, or, by antiperistaltic action, the stomach, and reach the blood stream, by which they not only reach the muscles, but they also gain access to the brain and eye, and there develop the cysticercus or "measle."

Tœnia Echinococcus.—Fortunately the beef and pork measles are not commonly met with in this country. With far greater frequency are found the cysts or bladders of the tapeworm tœnia echinococcus. The mature worm is most commonly found infesting the intestines of dogs, and usually when present they exist there in great numbers. They are short—only three or four segments, including the head—and are, therefore, very minute, so much so that they may easily escape observation. Each worm develops only one ripe segment, which is full of eggs. These are voided, rupture, and find their way to the drinking water. When these eggs are ingested by the medium of water their history is the same as those of the tœnia saginata and tœnia solium, which has already been stated, except that the embryos do not come to rest in the muscles unless in very bad cases. By the blood stream they find their way to the liver and lungs, and sometimes to the brain and eye. These embryos form cysts or bladders filled with watery fluid, and many of them contain numerous heads, which, when swallowed by dogs, give rise to new tapeworms. The heads are armed with both hooklets and suckers. The bladders vary greatly in size from a pinhead to a man's fist or larger. Their average is about the size of a boy's marble. They are frequently seen in the lungs of cattle, and as often in the livers. The latter often assume enormous proportions on account of their presence. The cysts are frequently seen in Scotch cattle, but much more commonly in cattle from our Northern islands and in Iceland. Dogs are infected by eating the internal organs of stock in which the cysts exist. Human beings are infected only by the ingestion of the eggs. This tapeworm is never found in the human intestines, but sometimes the cysts are found in the internal organs of man. It follows, therefore, that man is infected from the dog, and the probable medium is the drinking water.

Trichina Spiralis.—I will now invite your attention to the consideration of another worm parasite, the trichina spiralis, which originates the disease termed trichinosis. This is a minute, round worm, resembling roughly, as its name indicates, a spiral hair. It is transmitted to man through eating raw or half-cooked pork which is infected with it. This kind of pork is, fortunately, seldom found in this country, and we are further safeguarded by the fact that the parasite is killed by thorough cooking, which, as a rule, obtains here. One great danger of infected pork is that the worm and the nest it makes in the muscle are so minute that they are invisible to the naked eye, and require to be magnified about thirty times in order to be clearly seen. Thus magnified, the parasite appears as a small worm coiled upon itself in the central area of a spindle-shaped space, and lying just under the cover of a muscle fibre. When infected pork is eaten raw or half-cooked, that is, when the worms are alive, they continue to live in the stomach and bowels. In two days they become sexually mature. Each female gives birth to from five to ten thousand young. These young ones are so small that they ascend the absorbent vessels of the intestines, and reach the blood stream, and thus become distributed through the body. Their preferential location is inside the covering of the muscle fibres. The injury which they inflict upon a patient is due to the irritation occasioned by their presence. When the immensity of their numbers is realised it can be easily understood how muscles so closely beset with them degenerate, and often produce a fatal effect.

Swine and dogs are the most frequently affected of the domesticated animals. Rats, however, are the normal hosts of the trichina, and it is supposed that swine become infected through eating dead rats.

Liver Fluke.—One of the commonest animal parasites met with in the course of meat inspection is the liver fluke. Since, however, it is not transmissible to man it must here receive a more than usually cursory notice. The distomum hepaticum is about an inch in length, brown in colour, and shaped like a flounder, except that it is much narrower. It infects the gall ducts of the livers of sheep and cattle mostly. These ducts become thickened, and latterly calcified, and the superficial ones are raised like thick, white strands on the upper surface of the liver. The liver is greatly enlarged and spoiled for food purposes. This condition of the liver in cattle does not usually interfere with their general health, but it is often a cause of emaciation in sheep.

Plant Parasites.—Bacteria are minute one-celled plants, and give rise to perhaps the most extensive and important diseases which come under the meat inspector's notice. So minute are they that they require to be magnified over five hundred times in order to be clearly seen. In shape the commoner ones are spherical, oblong, or rod-like, and often group themselves in pairs or in fours or in chains. Others are club-shaped, comma-like, or spiral, etc. Their method of multiplying themselves is by fission; that is, each individual simply divides itself into two. In a favourable medium, therefore, their rate of increase is enormous, and this is a point of the greatest importance. When bacteria are spoken of the idea generally imparted is that they are all dangerous to health, but this is a great mistake. Old cheese, for instance, may have myriads on it, and yet it may be eaten with impunity. (The identity of bacteria must not in this case be confounded with that of cheese mites). The vast majority of microbes have no disease-producing power. Pathogenic forms, that is, those which can produce disease, are in the minority; but these, unfortunately, are widely distributed.

The disease-producing bacteria gain entrance to the body in three ways—(1) they may be inspired into the air passages and lungs with the breath; (2) they may pass into the mouth, stomach, and bowels with food; and (3) they may gain entrance by getting into wounds, however slight these may be. Wherever they find a *nidus*, that is, a suitable place in which to multiply, they cause inflammation. Now, in the judgment of meat the inspector is largely guided by signs of inflammation. What is inflammation? It has already been mentioned in connection with fracture. In that case, if the skin is not pierced with a bone splinter, it is due to increased blood supply to the injured part in nature's effort to repair the part. In bacterial attack inflammation is a sign of conflict—the tissues of the body against the invasion by microbes. The white corpuscles of the blood constitute the fighting forces of the body. Take, for example, a wound in the hand into which virulent bacteria have entered—"a poisoned wound," it is commonly called. There is a great increase of the blood supply to the part, producing swelling, heat, and tenderness (by pressure on the nerves); the body is hurrying up the white corpuscles to destroy the bacteria, which the corpuscles do by enclosing them in their substance and digesting them. On the other hand, the weapons of the bacteria are rapid multiplication and the formation of a toxin or poison, which paralyses or kills the white corpuscles. If the blood wins, an abscess or a "boil" results, the pus of the one and the "core" of the other representing the killed and wounded. If the bacteria win a red line creeps up the arm, and there is pain in the armpit. They have ascended the lymphatic vessels till they have reached the first lymphatic glands, which are the body's second line of defence The gland, though

itself inflamed, may arrest their progress. If this barrier of lymphatic glands be passed the bacteria overrun the whole body by means of the blood stream, and cause death. Now, suppose that this wound, instead of being in a human hand, were located in the foot of a bullock, the complete invasion of the animal's body by the bacteria would render seizure of the whole carcase imperative. This class of carcase, in which the condition is called septicæmia, furnishes more cases of meat poisoning than any other.

Lymphatic glands offer invaluable guidance in the inspection of meat, and it is therefore necessary to glance briefly at the lymphatic system. The blood, in nourishing the tissues leaves more fluid than is necessary in them. This fluid is lymph, and filters into, and is conveyed away by, small lymph vessels to the nearest lymphatic gland. Here it is elaborated and passed on, generally through other glands, till it reaches the lymphatic trunk vessel, the thoracic duct, which, in turn, flows into the great systemic vein entering the heart, and thus the lymph joins the blood stream. Other lymph vessels, called absorbents and lacteals, convey fluids directly from the stomach and intestines; these fluids pass through lymphatic glands, and also join the thoracic duct. This roughly speaking, is the course of the lymphatic circulation.

Tuberculosis.—We are now in a better position to understand the commoner forms of a disease like tuberculosis. It usually spreads by these lymphatic vessels. This disease is caused by the bacillus tuberculosis. When examined under a microscope, magnifying them seven or eight hundred times, they exhibit a distinct grouping which is almost diagnostic; they arrange themselves in bunches or at various angles, and these groups are said to resemble Chinese characters, such as are seen on the tea boxes which really come from China. Diagnosis by means of their appearance under the microscope is aided by their peculiar staining reaction.

One notable fact about this bacillus is that it grows very slowly, and the tendency is that the local manifestations of the disease, or lesions, usually assume the chronic form. On account of this slow growth, the body can, to a considerable extent, accommodate itself to the disease. The symptoms, therefore, are frequently very indefinite, so much so that it comes as a surprise to find a healthy-looking bullock exhibit after slaughter a large amount of tubercular deposit.

It has been ascertained by experiment that a considerable number of tubercle bacilli is required to produce infection; when only a few try to effect a foothold, they are destroyed by the white corpuscles. When, however, they have established their hold in any part of the body, they extend along the lymphatic vessels, and soon reach a lymphatic gland. The gland resists the invasion, and often succeeds in arresting their progress. The gland may swell greatly and be destroyed. Here, however, we come upon a wonderful natural provision. Round the gland, which has become a mass of cheese-like tubercular debris, is formed a thick capsule of strong white tissue, through which bacilli do not penetrate. Indeed, in such a situation the bacilli seem to die, for it is often impossible to find them by microscopic examination. In this event the disease may be localised. Although it is difficult or impossible to find bacilli in such a gland, it must be stated that the cheesy material is still infective. This may be proved by injecting some of it into the body of another suitable animal, where it reproduces the disease.

The lungs are found to be the organs most frequently attacked by this disease, and, of course, the lymphatic glands which drain them. Next in order of frequency come the mesenteric lymphatic glands, which are situated in a chain a little above the intestines, and are infected through lymph vessels, called lacteals, from bacilli ingested with food. Next in frequency comes the diaphragm. The diaphragm is covered in front and behind by serous membranes, which extend as a lining over the walls of the chest cavity, and over those also of the abdominal cavity. It is on these lining membranes that the typical tubercles are developed. The earliest stage of them is usually a reddish-grey slimy deposit: then appear semi-translucent grey nodules, or "pearls," as the Germans call them: these enlarge, and may appear red in acute cases, but ultimately become yellow and gritty from calcification in the chronic stage. All the tissues of the body may be attacked by tubercle, but infection of voluntary muscles appears to be extremely rare; some say they are immune.

Although the tendency of tuberculosis is towards localisation, yet it sometimes becomes generalised—that is, bacilli travel by the blood stream and produce general infection. This is brought about by one of two ways—(1) a tubercular focus may grow into contact with a vein and pierce it, and a constant supply of bacilli is thus passed into the vessel; (2) one or more infected lymphatic glands, instead of caseating, may break down into pus (through mixed infection). The pus then carries the tubercle bacilli to the blood stream through the thoracic duct. In both of these ways a constant supply of tubercle bacilli reaches the blood stream in the heart and is conveyed to the lungs.

In the lungs these bacilli get stranded in great numbers in the minute blood vessels or capillaries, and begin their work of destruction. This takes places at innumerable different spots and forms minute tubercles—hence the name "miliary" which is applied to them. They are at first grey and translucent, but soon acquire the distinctive yellow colour characteristic of the disease. This form of the disease is always acute, and the tubercles never attain a large size, because a fatal issue is certain before that could take place. Those bacilli which pass through the lungs are distributed in other parts of the body, and may originate miliary tuberculosis of other organs, such as the liver and spleen, and, in old animals, the kidneys.

Anthrax.—Anthrax is a disease which can truly be described as a poisoning of the blood. Here the bacilli infect the blood; they make it septic, hence the disease is called a septicæmia. The virulence of the bacilli is so exalted that it generally overcomes the white corpuscles and effects such changes in the blood that it is rendered inadequate to support life. Unlike tuberculosis, also, its course is very rapid; the first indication of its existence usually is that the affected animal is found dead. Sheep, cattle, and horses are peculiarly susceptible to the attack of anthrax, while man, and also the pig, are less so.

The order issued by the Government regulating the disposition of carcases dead from anthrax directs that diagnosis is to be made by microscopical examination of the blood. If diagnosis can be thus established the carcase must be destroyed without being skinned or eviscerated. The main purpose of this procedure is to avoid unnecessary effusion of the blood.

The blood—especially in the case of sheep and cattle—usually contains bacilli in great numbers. When it is shed on the ground, and exposed to the air at summer temperature, the contained bacilli form spores. These are minute oval bodies, which are comparable with seed. They can resist freezing, and even can withstand a few minutes of boiling.* Under ordinary climatic conditions they can live on indefinitely. When these spores are swallowed or gain access to a wound, they reproduce the anthrax bacillus in all its deadly power to destroy. It is clear, therefore, that every effort should be made to avoid the spilling of anthrax blood. As a rule, when an

* Atlas and Principles of Bacteriology. Lehmann and Neumann. Part ii., p. 52.

animal dies of anthrax it is found that bloody discharges have already issued from the natural openings of the body, and these discharges should be carefully disinfected.

It occasionally happens, however, that where veterinary inspection is not available the disease is not recognised, and the carcase– let us suppose it is that of a bullock—is opened in the usual way. The blood is seen to be dark with a tinge of purple in it, and it never coagulates. Of the internal organs the spleen will be found to exhibit the greatest departure from the normal, it is greatly enlarged, the contents are semi-fluid, and when cut into it has a dark, tarry appearance. Other organs show spots or areas of hæmorrhage. In pigs, however, the post-mortem appearances are not always so diagnostic, but there is generally a swelling of the throat, which points to infection through wounds in the mouth and throat from eating food infected with anthrax. There is generally a history of some animal which has died suddenly (anthrax being the cause of death), the internal organs of which have been given to the pigs. In cattle, films made from the blood of newly dead animals under the microscope usually exhibit the specific bacilli in diagnostically great numbers. This is not usually the case in blood films from the pig.

In man, if the infection is through a skin wound, a "malignant pustule" is formed, and if this be carefully excised by a surgeon recovery usually follows. In "wool sorters' disease," on the other hand, where spores have been inspired into the lungs, a fatal termination may be expected. Wool, hides, and hair, imported from abroad, notably such as come from Asiastic ports, are often dangerous. Anthrax appears to be common in those regions, and these products are frequently obtained from carcases dead of anthrax.

Actinomyeosis.—This disease is more frequent than anthrax, but is by no means so deadly. It affects cattle mostly, sometimes pigs, and very rarely sheep. Besides being a disease of animals, it also is a disease of plants, and there is no doubt that animals acquire it by eating grain and straw, etc., which are affected with it. Particles of straw and awns of barley have been found in the parts first affected by it; that is, in the primary lesions. A further proof of such origin is that the disease is usually found about the head. The tongue is often affected; it becomes enlarged and hard, and has been called "wooden tongue." The affected grain particles often get between the teeth, in which case the disease attacks the upper or lower jaw, thus giving rise to the term "big jaw." It sometimes affects the stomach and liver. In soft tissues (muscles, liver, etc.) the lesions are usually firmly growing tumours. On section, the cut surfaces exhibit a mottled appearance, strands of strong white tissue with reddish grey areas through it. In these latter areas may be seen minute particles like grains of sand, sulphur-yellow in colour, which are colonies of the fungus. This is not, strictly speaking, a bacterial disease; these colonies, which are visible to the naked eye, are made up of differentiated elements. These colonies are always to be found, and are diagnostic of the disease. As extremely few cases of generalised actinomycosis have been recorded, it may be considered that its tendency is to localisation. The affected parts must certainly be seized, and if extensive alteration of the liver, or starvation through inability to eat, should cause a great falling away of condition, the whole carcase should be seized. Very few cases are recorded of alleged infection of man from affected animals, and at present the general opinion obtains that human infection originates like that of animals from grain, straw, or grass. This may justify a word of warning against the occasional habit of chewing bits of straw or grass.

Meat Poisoning.—Perhaps the most important part of meat inspection is that connected with cases of so-called "meat poisoning." The causes of this affection are, unfortunately, often obscure. It may be produced by contamination of sound meat after it has been dressed. It can even be produced by mistakes in cooking. It has, however, often been directly traced to the flesh of carcases which have been affected with pyæmia and septicæmia, particularly when the animals have been slaughtered when in a moribund condition, or when carcases of animals so affected have been dressed for human food after they have died of these diseases.

Now, what are pyæmia and septicæmia?

Pyæmia—Literally, this disease is pus in the blood. Pus is usually associated in the mind with abscesses. Sound carcases, however, may often be seen with abscesses which may even be of considerable size. The most frequent locations of these lesions are the liver, the lungs, and the abdominal cavity; in the latter they may often be found between the kidneys and the diaphragm. Such abscesses are invariably enclosed in a distinct wall or capsule of white tissue, which is able to contain, and therefore to isolate, the pus. Pyæmia is a condition in which pus is not so isolated or contained, but in which the pus is free among the tissues, and may even have displaced the marrow in the bones in bad cases. These are the dangerous carcases.

Septicæmia.—In my remarks on the general method of bacterial attack I have already endeavoured to explain how septicæmia arises. In resuming the discussion at that point, it must be stated that septicæmia may arise not only from an infected wound in the foot, but from an infection of any part or organ of the body, and most frequently, perhaps, from the womb of parturient animals and the umbilical cord of the young. Septicæmia, or infection (sepsis) of the blood, supervenes wherever the invading bacteria have vanquished the white blood corpuscles at the point of ingress and the lymphatic glands which drain that point.

There are no gross lesions in septicæmia; the course of invasion is too rapid for that; there is no time for such to form. It is, therefore, not always easy to diagnose it, especially if only an eviscerated carcase, or a part of one, be presented. If the internal organs are present—or, better still, if the inspector can see the carcase dressed—the following will generally be observed: The liver and kidneys are usually clay-coloured or "cloudy," the serous membranes (the linings of the chest and abdomen, the sheets of tissue supporting the bowels, etc., etc.), are uniformly discoloured pink, yellow, or brown, or a combination of these colours, and there are often hæmorrhagic spots—blood-coloured dots and patches. The lymphatic glands are all enlarged, contain an abnormal amount of fluid, and sometimes exhibit bloodstains. The carcase soon decomposes.

In a treatise recently translated from the German (Ostertag's Handbook of Meat Inspection) a series of cases of meat poisoning are described, each of which involved the affection of numbers of persons. These cases were directly traced to the eating of carcases which were moribund when slaughtered, or dead of the disease when dressed, and in which pyæmia or septicæmia were the diseases found to be affecting the animals. Most of these were cow carcases. (1) The septic processes in most of these began in the uterus shortly after parturition; (2) next in order of numbers came those affected with enteritis or inflammation of the bowels; (3) next came those with acute mastitis or inflamed udders; (4) those with pyæmia after foot-and-mouth disease; and (5) those with peritonitis or general inflammation of the abdominal cavity. Of the calf carcases—(1) in most the septic processes began at the umbilical cord, and (2) then came those suffering from enteritis or inflammation of the bowels. In many cases the disease traces were lost because the carcases had been cut up and con-

sumed beforethe symptoms of poisoning were observed. All that remained was the history of an animal, which had been found dead or in a dying condition.

These cases of meat poisoning, I must remind you, occurred on the Continent of Europe, where flesh is often eaten in a raw or imperfectly cooked condition. Some cases are also cited in which those who ate the diseased meat raw suffered from poisoning, while those who ate the same meat cooked remained healthy. It is true that in at least two well-known septicæmias the meat is innocuous after thorough cooking, but that is by no means a sufficient reason for passing such carcases as being "fit" for food. Pyæmia and septicæmia are caused by germs, some of which are known and many of which are unknown; all of them form toxins which are chemical poisons when they are invading the body. When meat from such carcases is rendered innocuous by thorough cooking, it means that both the bacteria and their toxins have been destroyed in the process. But in many cases these toxins or poisons are of such a stable charaeter that they withstand cooking, rendering the meat poisonous after it has been cooked. In one case even the broth made from it was found to be dangerous. These considerations make it imperative on the part of the meat inspector to seize and wholly destroy all carcases affected with these diseases.

Unfortunately, all cases of pyæmia and septicæmia are not typical; their diagnosis is by no means easy, and this is what makes emergency slaughter a matter of grave anxiety to the inspector. This is especially the case when only the eviscerated carcase is presented for inspection.

In the ordinary routine of meat inspection the line drawn in this country between what meat is sound and fit for human food and that which is unsound and unfit is arbitrary. On the Continent a distinction is made which divides meat into three classes—(1) that which is sound; (2) that which is spoiled; and (3) that which is dangerous. Meat of the first class is sold openly anywhere. The third class, which is considered dangerous, is totally destroyed. The second class includes such meat as may be termed spoiled or unmarketable, which occupies the broad borderland between what is inferior to sound meat and what is not dangerous to health. This is sold at specified premises called "Freibanks," under municipal control, to poor people at low prices. Owing to the high prices of sound meat in these countries, freibanks are extremely popular.

In conclusion, I would say that, owing to the wide scope and complexity of the subject, I fear I have done but scant justice to it. I have dealt with but few of the morbid conditions met with in the course of inspection, hoping to describe types of diseases rather than to give a mere list of them.

COMPARATIVE SUMMARY OF RETURNS—
PARASITIC MANGE, IN IRELAND.

	1906	1905	1904	1903
Outbreaks in May	8	23	22	24
Five Months	41	104	91	131

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Sheep Scab.	Swine Fever.	
		Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Dogs.	Other	Out-breaks	Out-breaks.	Slaughtered *
GT. BRITAIN. Week ended June 9		16	16			28	53			..	19	91
Corresponding week in	1905 ..	20	25			27	44			5	20	113
	1904 ..	18	21			23	49			6	30	160
	1903 ..	22	61			26	43			5	43	88
Total for 23 weeks, 1906		465	694			498	937			283	549	2822
Corresponding period in	1905 ..	487	687			548	982			641	357	1718
	1904 ..	490	770			663	1226			1046	676	3469
	1903 ..	390	613			584	961			1137	720	3532

Board of Agriculture and Fisheries, June 12, 1906.

IRELAND. Week ended June 2		..	..	..	..	..	..	..	..	1	2	15
Corresponding Week in	1905 ..	..	..	..	..	1	2	..	..	1	2	21
	1904 ..	..	..	..	..	..	..	..	..	3	7	109
	1903 ..	..	..	..	..	..	..	..	..	3	2	41
Total for 22 weeks, 1906		2	2	..	..	3	10	..	..	141	31	452
Corresponding period in	1905 ..	2	2	..	..	10	27	..	..	216	30	350
	1904 ..	2	2	..	..	4	19	..	..	356	84	1351
	1903 ..	1	2	..	..	1	2	..	..	379	75	1257

Epizootic Lymphangitis: Week ending Jan. 27, 1906, 1 case.

Department of Agriculture and Technical Instruction for Ireland, (Castle Street), Dublin, June 7, 1906.

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection.

THE VETERINARY MEDICAL ASSOCIATION OF IRELAND.

The May meeting took place at the Gresham Hotel Dublin, on Friday, May 18th, 1906, at 4 o'clock p.m. The President, Mr. J. McKenny, in the chair ; also present Messrs. M. Hedley, treasurer ; Prof. G. H. Wooldridge, W. Cargill Patrick, Col. J. Reilly, A.V.D., P. J Howard, Prof. J. F. Craig, Prof. A. C. Duncan, F. C. Mason, W. H. Wilkinson, J. Malone, J. Holland, Prof. A. E. Mettam, L. M. Magee, F. Kerr, J. J. Kelly, F. A. Heney, J. V. Daly, and C. Allen, hon. sec.

The following visitors were also present : Messrs. E. J. Carroll, Miltown Malbay ; R. G. Melville, Dublin ; W. Ashe King, Dublin ; J. J. Kelly, Kilrush ; and J. McC. Barry, Belfast.

The following wrote expressing their inability to be present : Messrs. J. A. Jordan, R. Kernohan, P. D. Reavy, W. J. Richardson, C. Rea, J. H. Norris, T. E. Loughran, W. E. Elkins, G. A. Browne, H. A. Stewart, F. G. Relf, J. A. Thompson, J. J. Vahey, A. Dobbyn, M. Smith, F. F. Collins, T. L. Simcocks, E. C. Winter, P. W. Creagh, M. F. Lynch, J. W. Nolans, J. F. Hayes, R. D. Dove, and E. A. Ryan.

Nominations.

Messrs. J. J. Kelly, Kilrush, and E. J. Carroll, Ennis, were nominated for election as members of the Association.

Report of Council.

Gentlemen,—Since our annual general meeting in January, your Council have held three meetings. At the Council meeting held on February 22nd, it was brought before our notice by one of our members that names of veterinarians appeared in *The London Gazette* under the heading of tradesmen. Also, that the names of deceased veterinarians appeared in the same list, although their practices were now in different hands. Also, that a person was described as a "Canine Surgeon" although he was not a qualified member of the R.C.V.S.

The following resolution was passed, viz. :

"That the attention of the R.C.V.S. be directed to *The London Gazette*, dated January 2nd, 1906, wherein it is indicated that Veterinary Surgeons are classed as tradesmen among the warrant holders, and desire that steps be taken to have the matter remedied."

In accordance with this resolution, we have written to the R.C.V.S. on the subject, and received the following acknowledgment, viz. :

"10 Red Lion Square, March 1, 1906.

Re London Gazette, Jan. 2, 1906.

"Deer Sir,—I beg to acknowledge the receipt of your letter of February 27th, which shall be laid before the Registration Committee and Council at its next meeting.—Yours very faithfully,

Arthur W. Hill, *Secretary.*"

We also had under consideration, at the same time, the matter of the names of Dublin veterinarians appearing in "Thom's Directory" amongst the tradesmen, between venison dealers and victuallers. Also, that the list of names of Irish practitioners was both incomplete and inaccurate and placed in an obscure part of the directory, instead of being placed in company with medical men, &c.

The following resolution was passed :—

"That the Editor of "Thom's Directory" be asked to place the list of Veterinary Surgeons in the Directory immediately between the list of Medical men and Dentists."

A letter was accordingly written to the Editor of the Directory, and the following is the reply which we have received :—

"87, 88, and 89 Abbey Street, Dublin,
March 7, 1906.

Dear Sir,—In reply to your letter of the 6th inst., respecting the list of Veterinary Surgeons in our Directory, we beg to inform you that we shall be pleased to carry out your suggestions, and in future editions to have the list inserted after the medical and before the dental lists.

A proof will also be submitted to you in future before we go to press. We shall also omit the list as given at page 2184.—We are, dear sir, yours faithfully,

Alex. Thom & Co., Ltd"

As instructed by you, we considered the case submitted at the January meeting in reference to a lecture delivered by Mr. W. Godfrey, Instructor in Agriculture to the Department of Agriculture and Technical Instruction, at Tulla, Co. Claire, on January 12. The following resolution was passed :—

"That the attention of the D.A.T.I. be drawn to the practice of Itinerant Agricultural Lecturers giving advice to farmers on veterinary matters, and demonstrating and describing operations which should and can only be properly performed by fully qualified veterinary surgeons. That the Department be respectfully requested to use their influence to prevent the continuation of the grievance special reference being made to the following cases, viz. :—

(1) Lecture given by Mr. W. Godfrey at Drumcharley National School, Tulla, Co. Clare, on Friday, January 12, 1906, as reported in the *Clare Champion*, of January 20, 1906.
(2) Lectures given by Mr. Leaf in the County of Kilkenny in 1902, particulars of which were furnished the Department by this Association on January 15th, 1903.
(3) Lectures delivered by Mr. A. Reeves in the County of Cavan in 1903, particulars of which were furnished to the Department by this Association on April 30th, and June 24th, 1903."

We accordingly addressed a letter to the Secretary of the D.A.T.I., embodying the above, and received the following reply, viz. :—

"Sir,—With reference to your letter of the 27th ult., I have to state that the attention of the County Clare Committee has been directed by the Department to the resolution adopted by your Association relative to the lecture delivered by the Committee's Instructor in Agriculture, Mr. Godfrey, at Drumcharley on 12th January last. The Department are informed that the Committee are of opinion that on the occasion in question Mr. Godfrey confined himself to drawing the attention of his audience to recognised remedies for certain ailments of live stock and that in doing so he did not trench on the rights of veterinary practitioners.

Mr. Godfrey has been instructed that in lecturing on diseases of live stock he should be careful not to give advice as to operations which should be undertaken only by qualified veterinary surgeons.—I am, Sir, your obedient servant,

(Signed) T. P. Gill, *Secretary.*"

This reply was considered by us at a Council meeting held on the 26th of April, and it was decided to forward it to the gentleman who had originally brought the matter under our observation, asking him to investigate the matter and furnish the Association with his further observations. On receipt of this, a further letter has been addressed to the D.A.T.I.

With reference to the finances of the Association, we suggest that the sum of £10 be allocated to the Bursary Fund, and a further sum of £10 be invested in Consols on behalf of the General Fund.

We had under consideration a communication which we received from the Irish Central Veterinary Association containing a resolution in which it was suggested by that body that the two existing Irish Associations should be amalgamated, and that local branches be established throughout Ireland. The matter was referred back to that Association, as we had learned that changes in the officers of that body had taken place since the drafting of the resolution. We wrote to the Secretary of the Association on the 22nd of February, but our letter has neither been acknowledged nor replied to up to the present.

With reference to the proposal made by an Insurance Company to grant considerably reduced rates to members of this Association, the matter was discussed at the Council meeting of February 22nd, when the following resolution was passed, viz. :—

"That the proposed scheme of Insurance between the Insurance Company and the members of the V.M.A.I. be referred to our solicitor, and advice asked as to the best course to pursue to secure the best interests of the V.M.A.I."

The matter was, therefore, submitted to Messrs. Carlyle and Duncan and the following is the report which we received, viz. :—

"Referring to the proposal of the —— Insurance Co. that the Veterinary Medical Association of Ireland should accept an agency of such Company in respect of insurances incidental to the veterinary profession, we desire to draw your Association's attention to the *principle* involved in taking such a step, before advising upon the circular and correspondence submitted to us.

It appears to us that whatever benefits may be derived by individual members of the Veterinary Medical Association through the acceptance of such an agency, certainly no advantage can possibly accrue to the Veterinary Medical Association as a body; on the contrary, such an acceptance by your Association is liable to misconstruction, and is likely to place it in a false position, not only towards the members of the veterinary surgeons profession, but the public at large.

To our mind the official recognition by your Association of an Insurance Company covering risks occasioned by the exercise of practitioners of the veterinary skill, and its acceptance of an agency of such Company, suggests a means by which aspersions may be cast upon the competency of members of the profession in the exercise of such skill.

No doubt the terms offered by the Company in question are exceptionally favourable, but for the above reason we cannot advise your Association to accept its agency.

We are holding the documents sent us pending your Association's consideration of the views set out in this matter, and your further instructions.

(Signed) CARLYLE & DUNCAN."

This report was considered at the Council meeting held on April 26th, and it was decided to write to the Company informing them that we were advised by our legal authorities that the terms offered were such that they could not recommend the Association to entertain.

We had under consideration a letter and resolution from the Yorkshire Veterinary Medical Society *re* the Veterinary Inspectorship for the City of Cardiff. Also, another communication and resolution from the Central Veterinary Medical Society of England *re* expert evidence given in courts of law by Inspectors of the R.S.P.C.A.

We supported the resolutions of both these Societies, and wrote informing each of the fact.

With reference to the case of alleged infringement of the Veterinary Surgeons Act, concerning which we had been in communication with the R.C.V.S., we received a communication from the Solicitor of that body (Mr. Geo Thatcher) in which he suggested that the Association should consult with its legal advisers on the matter. Your President and Secretary in accordance with our request consulted Messrs. Carlyle and Duncan on the subject, and received a report from them in which the opinion was expressed that there was not sufficient evidence available to obtain a conviction against the offender, but the suggestion was offered that the opinion of a barrister-at-law be obtained before finally deciding to give the matter up. This question came up for consideration at a Council meeting held on March 22nd, and it was then decided that Mr. Dudley White, B.L., be asked to give his opinion on the case. This opinion was duly obtained, and was considered at the meeting held on April 26th. The following resolutions were passed, viz. :—

(*a*) That the matter be abandoned until further evidence be obtained.

(*b*) That the attention of the R.C.V.S. be drawn to the concluding paragraph of Mr. Dudley White's opinion in this case, *re* the amendment of the R.C.V.S. Act, and that they be asked to consider the point in the event of a new Act of Parliament or other power being sought.

The portion of Council's opinion referred to is as follows :—

"I should like to refer the Members of the Royal College of Veterinary Surgeons to the wide language of, for instance, 6 and 7 Vic. C. 73 S. 2, the Statute preventing persons not qua ified from acting as solicitors in England and Wales :—'From and after the passing of this Act no person shall *act* as an Attorney or Solicitor, or as such,' etc. If any new act is contemplated by the veterinary profession, I respectfully suggest that the provisions of Sec. 17 should, if possible, be extended in the direction indicated by the last quoted section, but I think it would be bad policy to run the risk in a case, doubtful at best, of impressing the public with what I am afraid is the law, that anyone can practice veterinary surgery if he avoids describing himself in the manner contemplated by Sec. 17, Sub. Sec. 1 of the V.S. Act of 1881."

A letter was written to the Secretary of the R.C.V.S. embodying this resolution, and the following is the reply which we received :—

"Dear Sir,—Mr. Hill has handed me your letter of the 27th inst. I quite agree with Mr. Dudley White's opinion, but his suggestion can only be carried out by an Act of Parliament. There are one or two other things upon which an amendment of the law ought to be made, and I hope the Council will see their way to applying for a Supplemental Act, but as I need hardly point out to your Association, this is a matter which involves a very considerable amount of responsibility and expense.—Yours faithfully,

(Signed) GEO. THATCHER."

With reference to the question of the proposed establishment of Veterinary Dispensaries in Ireland, we received a communication from Mr. E. Wallis Hoare, of Cork, on the subject, which we considered at the meeting of Feb. 22nd. It was then decided that Mr. Hoare be asked to prepare and read a paper upon the question, to be discussed at an emergency meeting of this Association. Mr. Hoare kindly consent to read the paper, and (as announced on the Agenda convening this meeting), a special meeting will be held this evening at 8 o'clock p.m. to discuss the matter.

In this connection we read you the following letter which we received from the D.A.T.I., viz. :—

"Proposed District Veterinary Dispensaries.

Sir,—I am directed by the Department of Agriculture and Technical Instruction for Ireland to transmit here-

with, for the information of your Association, copies of communications received here on the above subject from the Secretary of the Queens' County Committee of Agriculture and Technical Instruction.

As it is understood that the question of such proposals as these communications embody will be considered, from the point of view of the veterinary profession, at a forthcoming meeting of your Association, perhaps you will be so good as to favour the Department with an intimation of the date of the proposed meeting.—I am, sir, your obedient servant,

(Signed) R. CANTRELL, Chief Clerk."

We received a communication from the Lancashire Veterinary Medical Association in which they asked us to nominate two of our members to act on the Committee appointed to consider the question of securing the representation of the profession in the House of Commons, and the matter came up for consideration at the meeting of February 22nd. The following resolutions were passed, and duly transmitted to the Lancashire Association, viz. :—

(*a*) That this Association appoint two delegates to attend the meeting of the Committee on Parliamentary Representation, viz., Messrs. W. A. Byrne, and A. E. Mettam.

(*b*) That this Association desires to suggest that the meetings of the Committee be held contemporaneously with the meetings of the Council of the R.C.V.S., either in London, or at such a centre that the delegates could attend on the way to or from London."

The following letter was considered at a meeting held on Feb. 22nd, and it was decided that it be read at this meeting, viz. :—

"7 and 8 Bachelor's Walk, Dublin.
February 20th, 1906.

The Secretary, the Irish Vety. Medical Association,

Sir,—With reference to a letter signed B.P.A. which appeared in *The Veterinary Record* of February 17th, 1906, I shall feel obliged (as representative in Ireland for Messrs. Willow, Francis and Butler, Ltd.) if you will allow me to offer the following observations.

The professional questions raised in B.P.A's letter do not come within my province, but the statement that—"No veterinary surgeons should patronise or give an order to travellers of any firm who call on anybody but medical men or veterinary surgeons"—appears to call for some remark, as precluding any wholesale firm from dealing with chemists. The majority of the medical men in Ireland, however, do not themselves compound, but give prescriptions to be dispensed by the apothecary or chemist, and it is obvious therefore that in the interests of the medical profession such a suggestion could not be carried out.

My firm, however, have long recognised that the peculiar circumstances of the veterinary profession require that serums and preparations of a distinctly veterinary character, as well as information respecting them, should be in the hands of the profession alone, and they make a strict rule of supplying such only to the profession direct, or upon the written order of a duly qualified practitioner.

I may mention that we supply the profession on trade terms, with trade discount, thus offering wholesale advantages together with the professional restrictions previously named.

May I ask that you will do me the favour of having this letter read at the next meeting of your Council, and on behalf my firm and myself I take this opportunity of thanking the members of your Association for their uniform kindness and consideration, and remain,

Yours, etc., J. CAMPBELL CARTER.

Representative in Ireland for Messrs. Willows, Francis, and Butler, Ltd."

On March 22nd we had under consideration the matter of Licensed Horse-slaughterers giving what were practically reports of post-mortem examinations made on their premises. We decided to forward a letter on the subject to a horse-slaughter in this city, and the following is the reply which we received :—

"We have to acknowledge receipt of your letter of the 24th inst., which surpises us very much.

We have been most particular in guarding the rights of the profession in this matter, and referred those inquiring to a veterinary snrgeon, pointing out that we were not competent to give an opinion or to make a post-mortem of the nature mentioned. If, however, information such as you suggest was given (and we have had to make changes recently in connection with our slaughter yard) the steps taken by us will make its recurrence an impossibility.

Of course it has often been the case—which may have given rise to the complaint—we are asked by a veterinary surgeon to take notice of anything unusual that might show when cutting up the carcase.

We will still be expected to do so unless it is contrary to your wishes and the wishes of the profession."

On the 26th April, we had under consideration a letter which we received from one of our members in which he drew our attention to the fact that a person with a foreign diploma was practising in this country as a qualified veterinary surgeon, although his name does not appear on the Register of the Royal College of Veterinary Surgeons. We are at present making fuller inquiries, and no doubt will be able to report further on the subject at our next meeting.

On April 26th we had under consideration a communication which we received from the Lord Mayor of Cork in which we were invited to appoint delegates to attend the Annual Congress of the Royal Institute of Public Health which will be held at Cork from June 28th to July 3rd, 1906. We decided that Col. Steel be appointed our delegate, and that his travelling expenses be allowed. CHAS. ALLEN.

May 18th, 1906.

The report was adopted unanimously.

(To be continued.)

GLASGOW VETERINARY COLLEGE.

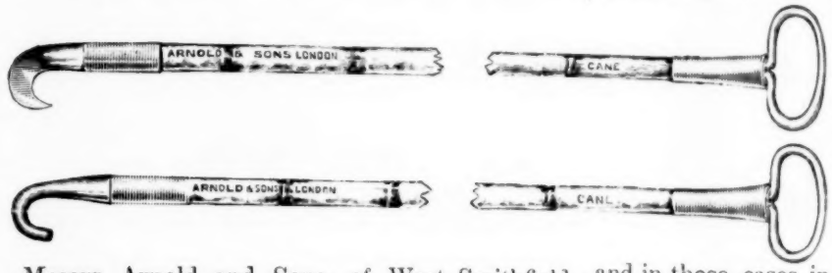
The following medals were granted by the Highland and Agricultural Society, the late Professor Allen Thomson (of London), and Principal M'Call, and certificates of merit were awarded in different branches :—

Junior Anatomy.—Silver Medal and First-class Certificate, Fred. W. Hart. Zoology.—Silver Medal and First-class Certificate, David Cooper. Botany.—Silver Medal and First-class Certificate, John Cunningham. Chemistry and Physics.—Silver Medal and First-class Certificate, Fred. Hart. Senior Anatomy.—Silver Medal and First-class Certificate, William Kennedy. Physiology and Histology.—Silver Medal and First-class Certificate, Charles Johnson. Stable Management.—Silver Medal, William Kennedy. Veterinary Hygiene and Dietetics.—Silver Medal and First-class Certificate, William Henderson. Pathology and Bacteriology.—Silver Medal and First-class Certificate, Evelyn Meikle. Materia Medica.—Silver Medal and First-class Certificate, Evelyn Meikle. Medicine and Surgery (Horse), Written examination.—Silver Medal and First-class Certificate, Archd. M'Cunn. Medicine and Surgery (Cattle), Written examination.—Silver Medal and First-class Certificate Archd. M'Cunn. Medicine and Surgery (Horse), Practical examination.—Gold Medal, Wm. D. Blair. Medicine and Surgery (Cattle), Practical examination.—Gold Medal, Wm. D. Blair. Best professional examination in Senior Anatomy before the Board of Ex-

aminers.—Allan Thompson Gold Medal, Wm. Kennedy. Bursary of £20, by Principal M'Call, to student who has obtained the highest aggregate marks in his first, second, and third professional examinations before the Board of Examiners, Evelyn Meikle.—*The Scottish Farmer.*

NEW PARTURITION INSTRUMENTS.

Suggested by W. D. BLANCHARD, M.R.C.V.S.



Messrs. Arnold and Sons, of West Smithfield, London, have made for me a set of parturition instruments, which embody certain improvements that I am sure every country practitioner will recognise.

Being flexible one can pass over any intervening portion of the fœtus, the manipulation is done by the hand outside, directing only being left to the inserted hand. Injury to operator or patient is reduced and one's arms are not bruised as with steel. If the hand becomes cramped, it can be opened without dropping the instrument, and from the fact that they are controlled from the outside nothing like so much strain is put on the arm inside, and as the hand is inserted with the fingers extended, or nearly so, it does not cause the mother to strain so violently as do the knuckles when the hand is doubled up grasping an instrument.

In those cases where the head is the offending member the blunt hook will be found of great service. Take the case of a mare in which one can just reach the orbit with the fingers extended, the ordinary long hook with its rigid shaft is generally useless, the knees or fetlocks in the passage prevent the hook reaching the place even if the pelvis does not bar the way; the flexible shaft of this hook will overcome the difficulty, and further, the size and angle of the hook is such that it can be inserted without difficulty when it reaches the eye.

Or again in those cases in which the head is forward but lying on its side or turned over in that peculiar position the operator knows so well. It was cases of this description which made one try to find some means of relieving the strain one was put to in trying to get up the head. To pull at the head from the orbit lying uppermost is only to make matters worse, trying to lift and turn over the head with the hand is often trying to lift the cow, and a cord on the jaw assisting often pulls away. I found that when I could insert the long hook in the lowermost eye as well as the cord on jaw, I could generally pull out the head, especially if the fœtus could be pushed back a little, hence my trying to get an instrument which was flexible as well as strong, and these instruments will stand pulleys attaching.

I never use any other knife in embryotomy than the long sharp hook, on the skin having been separated by the subcutaneous spatula I feel for the top of the scapula then inserting the knife (and being laid flat on the fœtus and held there with the extended fingers, there is no danger to operator or patient, the handle outside enabling one to keep the point turned in one direction) I take the knife to the top of the shoulder and turning the point and pressing through the skin withdraw the knife, it will be found that a clean cut no deeper than the skin will be made throughout the length of the limb. It will not stick into the shoulder or elbow joint in passing over as the usual hook does, the angle of blade and size accounting for this, and in those cases in which there is absolutely no room these advantages become obvious.

I trust that others may find these instruments as useful as I have, in my case they have become indispensable.

ROYAL COLLEGE OF VETERINARY SURGEONS.—ANNUAL DINNER.

The annual dinner was held at the Trocadero Restaurant on Wednesday evening, June 7th, Mr. Joseph Abson, the president, occupying the chair. Among those present were Sir John M'Fadyean, Sir Nigel Kingscote, Colonel Lane Notter, the President of the Pharmaceutical Society, The Mayor of Chelsea, Col. Duck, C.B., Mr. J. F. Simpson, Mr. F. W. Wragg, and Mr. A. W. Hill, (secretary). In proposing the usual loyal toasts, the President's remark that veterinary surgeons, in common with all subjects of the King, deplored the diabolical attempt on the lives of the King and Queen of Spain was heartily cheered. Major Meredith, of the Army Veterinary Department, in replying to the toast of "The Navy, Army, and Reserve Forces," said that, so far as the horses of the cavalry were concerned, the Army was not as well equipped as before the days of the advent of the motor-car. The toast of "The Medical Profession" was proposed by Mr. William Hunting, who expressed the opinion that in the future the medical profession was bound to work *pari passu* with veterinarians in the study of general pathology, in view of the transmissibility of the diseases of animals to man. Col. Lane Notter, in responding, emphasised the necessity of combined veterinary and medical inspection in the supply of meat and milk in the interests of the public. The toast of the evening, "Prosperity to the Royal College of Veterinary Surgeons," was proposed by Sir Nigel Kingscote, who stated that since the College received its Charter 63 years ago the profession had made great strides in its educational programme, until at present its examinations were equal to those of the medical profession. He thought it was quite time the veterinary profession began to assert its rights, and that in the interests of the public health it should insist upon veterinary surgeons alone being appointed inspectors of dairies and meat, many sanitary inspectors at the present time being totally unqualified to fulfil their duties. The President briefly acknowledged the toast. In response to the toast of "The Visitors," the President of the Pharmaceutical Society suggested that the veterinary profession should join the medical and the legal professions in making a strong protest to Parliament against

personal qualifications being whittled away in the service of unqualified practitioners. It was not in the interests of the public that a company should be allowed to carry on practice by using the names and qualifications of individual practitioners.—*The Times.*

Anthrax or not Anthrax?

Another remarkable difference of opinion amongst veterinarians has occurred in Cumberland. Five cattle which died on a farm at Walmersyke, near Kirkoswald, within a few hours of each other, were certified by the local veterinary surgeon to have died from anthrax. Mr. Bell, V.S., Chief Veterinary Inspector for Cumberland, expressed the opinion that it was not anthrax, and a sample of blood was analysed by Professor M'Fadyean, who confirmed Mr. Bell's opinion. The Chief Veterinary Inspector for the Board of Agriculture was next on turn, and his reply states:—"The ex mination of the slide forwarded reveals the presence of anthrax."—*The Scottish Farmer.*

A Racehorse Attacked by Leprosy.

A Laffan telegram from New York, dated Saturday last, states that Sysonby, the horse for which Mr. Foxhall Keene refused £30,000, has fallen a victim to horse leprosy, a disease that caused the destruction of the progeny of the famous Hermit in England a century ago. Mr. Keene's family physician has been called in, and concurs in the diagnosis. This is the first time this disease has developed in the United States. It was prevalent in France in 1892 and 1893, when it caused the destruction of several thousand thoroughbreds. A late message from Mr. Keene says that he has hopes of saving Sysonby.—*The Times.*

[It is possible that by "horse-leprosy" is meant dourine.]

Sir John M'Fadyean Testimonial.

Capt. Carr	42/-	Lt.-Col. R. Moore	21/-

THANKS TO ELECTORS.

I thank the 234 personal friends who supported my candidature at the recent election.

Horace L. Roberts.

Ipswich.

Dear Sir,

Will you kindly permit me through the medium of *The Record* to tender my very grateful thanks to the 987 gentlemen who so kindly voted for me at the recent election of Council. I deeply appreciate this renewal of their confidence and will endeavour in the future, as in the past, to merit it.—Yours faithfully.

Joseph Abson.

Sheffield, June 13.

To the Veterinary Profession.

I beg to thank those gentlemen who kindly accorded me their support in the recent election of Councilmen which I am agreeably surprised was successful.

Your support, however, affords me further opportunities—if I can manage to retain a seat on the Registration Committee—of trying to prevent, in future, a repetition of the injustices that were so flagrantly practised by some of the Council a few years back; and who, I am sorry to say, still enjoy sufficient support to secure seats on the Council. I hope to see the day when this will no longer be the case.

Geo. A. Banham.

15, Downing Street, Cambridge.

Personal.

Clare—Sewell.—On the 9th June, at St. Peter's, Eaton Square, by the Rev. Robert Vernon Ottley Graves, M.A., Vicar of Tolleshunt d'Arcy, Essex, and Rector of Shorwell, Isle of Wight, Cecil Clare, elder son of George Clare, of Bute Lodge, East Twickenham, to Gladys, elder daughter of Alfred Joseph Sewell, M.R.C.V.S., England, of 113 Ebury St., S.W.

Crowhurst—Glanville.—At St. Petroc's Church, Bodmin, on June 6th, Charles Crowhurst, M.R.C.V.S., second son of James Crowhurst, F.R.C.V.S., of the Pleydells, Sturry, Kent, to Flora Phillipa, third daughter of Julian Glanville, Kirland House, Bodmin.

CORRESPONDENCE.

INOCULATION FOR BLACKLEG—AN ENQUIRY.

Sir,

In your issue of May 19th I read with interest a letter by "Country Practitioner" headed "Inoculation against blackleg—an enquiry."

He asks for other practitioners' experience with Parke, Davis & Co.'s preventive inoculation treatment for blackleg. I have had no experience with the Blacklegine supplied by that form, but have used a fair quantity of the single cord form of the Blacklegine procured from Messrs. Huish & Co. who were, I thought, the sole British agents for the Pasteur Vaccine Co., Ltd., and like "Country Practitioner" with unsatisfactory results.

On December 12th, 1905, I inoculated 42 beasts with the single cord vaccine; seven days later one died, another seventeen days after, another one month, and two others in from six weeks to two months after date of inoculation.

In another herd of 19 three died in from 12 to 25 days after inoculation, and all from blackleg. Since then I have inoculated about 150 beasts and have heard of one or two dying from blackleg, but in many cases have had no opportunity of finding out the result.

The owner of the 42 beasts informs me that next year he shall go back to the old-fashioned preventive treatment of setoning.

I have always been most careful to have a clean needle and to handle the cords by the disc attached only, and have in every case thoroughly buried the cord under the skin at the shoulder, being careful not to pierce the muscle.

I should be glad if other M.R.C.V.S. would be good enough to give us their experience with this so-called preventive treatment, either with the single or double cord form, as one hardly feels justified in recommending our clients to have beasts treated in this way when the results are decidedly unsatisfactory.—Yours faithfully,

"Another Country Practitioner."

SALE OF MEDICINES.

Sir,

I make the assertion that probably over three-quarters of the medicines given to animals are prepared by men who know nothing of veterinary medicine.

"Omega's" assumption that because a layman makes up a prescription given him by a veterinary surgeon that therefore he knows something of veterinary medicine, comes with remarkable grace from one who says I base my arguments on an assumption. It reminds me of the man who assumed he could swim when he jumped into 10 feet of water. Why this assumption of all righteousness in the matter of medicine?

Do not a good 90 per cent. of us and, *and especially town practitioners*, leave colic drinks at our contract places to save us trouble, and don't they often accomplish their purpose. Isn't even the diagnosis of a case of colic frequently made in blissful ignorance even by the most scientific of us? Again, when we get to our case we know

what has been given if we supply the colic drink, but when something blue, or red, or black, or green has been given which is not ours, what about *the quackery* of medicine then? Don't we oiten mix incompatibles without knowing it? It is true there is a pecuniary, scientific and ethical side to this question.

If we are true to our profession and wish to keep the layman out, the compass only points in one direction, and that is the point which says "act as a veterinary surgeon in the interests of the veterinary profession.—Yours truly,

MAGI.

GENERAL ANÆSTHESIA.

Sir,

Mr. Pugh has tapped a hornet's nest. Some years ago a voluminous correspondence occupied your columns in regard to castration—"Standing operation *versus* cast." No great purpose was served in the end, and ultimately the same will happen in the present instance. The advice of my revered Principal when at College holds good to-day just as much as when I heard it uttered some seventeen years ago as a peroration to his lecture on castration, viz., "Operate the way you think you can do it best and most successfully."

However, as a profession we cannot or ought not to stand still, and it does seem remarkable that so many of our number still adhere to the methods of empirics adopted in castration half a century ago.

For three seasons now I have operated with chloroform and am very much in love with it. Mr. Forbes and "Pluto" in their expositions evidently accept Mr. Pugh's statements *cum grano salis*. I am not writing to champion Mr. Pugh as that gentleman is peculiarly capable of standing on his own limbs, but after three seasons experience of chloroform in castration I am in a position to vouch for his observations recently expounded in *The Record* on General Anæsthesia, and especially in castration.

A word or two on methods adopted in castration without chloroform. The standing operation has its good and bad sides. Certain individuals are adapted for the performance of it, others are not. In a district where colts are operated on standing we find more cases of schirrous cord in young horses, and should intestine appear during the operation the case is hopeless. Again, is it possible to find a rougher (coarser is a better word) job than throwing a colt with ropes? I have been in a practice where along with my Principal we have operated on 15 colts in a forenoon, so I have a slight idea of the operation practically and feelingly. Can any member of the profession assert that throwing a colt with ropes and strong epithets tends to raise the profession in the eyes of the public? I do not personally think so.

Castrating with chloroform has a scientific look about it. There is no noise or shouting. Fixing the chloroform muzzle is not a difficult task, even in the wildest colt, and especially if the animal has been previously used to the halter. Before the colt is really aware of what is taking place he lops over and sound sleep soon intervenes. Whilst operating the muzzle can be removed, so that by the time the testicles are extracted the animal is once more "alive." As to sequelæ after administration of chloroform I have never had any.

The usual charge for castration in this district is £1 1s. I have charged a guinea and a half for special clients "with chloroform" which has been paid without demur.

A colt operated on with chloroform recovers from the operation much quicker and does better altogether than when cast with ropes, and the reasons are not far to seek. Take the case of a colt cast. On arrival at the farm the chances are the animal has never been haltered. After a few preliminary canters, amidst excitement the colt is caught and the halter adjusted. Then the animal is lugged out with more excitement, and after a few acrobatic performances the ropes are fixed, and down to Mother Earth he is thrown and secured. Ere this is all accomplished the chances are the colt is a mass of perspiration, and in this state the testicles are removed. Is this operating under favourable conditions? I trow not.

In the case of a colt operated on with chloroform there is no rough pulling about, no excitement—only the first stage of anæsthesia, and that only for a short time. The colt goes down, and whilst soundly sleeping with blood stream flowing quietly (no jerking or tugging to upset heart) castration is performed. Is it not only common sense to expect the animal to make a more rapid recovery than when bundled about with ropes?

The "paraphernalia" required is less than when cast. No ropes, belt, twitch, etc., etc. Only chloroform muzzle, chloroform, with a few trinkets in the shape of an ecraseur, knife, some Jeyes, and pocket case, all of which can be kept in the muzzle, which you can sling over your shoulder as if you were off to the Derby with a field glass. The average quantity of chloroform required in my experience is about 3 ounces.

I cannot quite understand Mr. Forbes when he says, "A vivid imagination is not required to picture the operator in the course of the day struggling with ropes and attending to chloroform," etc., etc. There is no struggling, and no ropes are required, only a little leader on top hind fetlock when colt is down for castration.

I agree with Mr. Pugh that great observation is required whilst using this "potent" drug chloroform, but as yet I have had nothing disagreeable happen.

To demonstrate that less help is required the following may not be out of place. I arranged to castrate a colt on a certain day. The farmer saw me coming and began shouting his men from the field. I remonstrated with him and said we did not require his men. They had better go on with their work. He looked doubtful. The farmer, groom, and myself operated on colt, and to drive it home to him I hazarded the opinion he might like to have colt docked. Answering in the affirmative I docked the animal, and a little later he walked into his box apparently oblivious of the outrages perpetrated on his body. The farmer ejaculated in admiration, "Well I'm d—d." Certainly not a classical observation, but under the circumstances perhaps justifiable.

In conclusion, it is my opinion that operating with chloroform does good to the profession—one can almost imagine Sirs F. Treves or Victor Horsley in close proximity whilst operating, and as far as I am concerned I have not the slightest intention of departing from it.—I am, Yours, etc.,

Reigate, June 11. CHAS. A. SQUAIR.

Sir,

To be just in controversy with people it is advisable on controversial points to quote their exact words. I don't like people that guess what you think when they live as far off as Sevenoaks is from Norwich. Mr. Pugh, in his article on general anæsthesia, writes "Mr. Mayall *thinks* that 6 ounces of pure and 12 ounces of methylated chloroform is necessary to produce anæsthesia." What I *wrote* in my recent letter was "*nearer the mark*" and not "*necessary*" to produce anæsthesia than from *2 to 3 ounces*.

Last week I gave a hackney *5½ ounces* of chloroform before he was anæsthetised, and I could have easily given more if I'd given him more air. Why, Mr. Pugh's *yearling* colts, according to his own writing took on an average *3¾ ounces* of chloroform! Some of my subjects have been big, strong, powerful *cart-horses* and I use a *Carlisle* muzzle.

Operating against time is a farce, I think, and ought to be condemned by the Registration Committee as one of the worst forms of advertising.

I wonder what would happen if one of Mr. Pugh's subjects was to break a limb or injure one of his attendants when he was giving chloroform to an animal *standing*.

I shouldn't like to read of it, especially if he has some kind, neighbourly practitioner of the Solon order, who would swear that to give chloroform standing without the aid of the men of Kent was courting disaster and away from the well-kept and well-attended farms of Kent.—Yours truly,

G. MAYALL, M.R.C.V.S.

Sir,

Mr. James Forbes, in his comments on my notes *re* chloroform anæsthesia, states that "one is not warranted in giving an anæsthetic for the removal of well-developed testicles, because the operation is not very painful." If

this is seriously meant I think—I am desirous not to wound his susceptibilities—that it is very regretable that a fully qualified veterinary surgeon should have his sense of feeling so thwarted as to make such a statement. If the removal of testes be not very painful then I say we have no painful operations.

Mr. Forbes contends that more harm is done by frightening the animal than the operation incurs, although he has no experience of this particular method. He doubts one's veracity as to the amount of chloroform given, and then works himself up into a nervous condition by imagining an operator struggling with certain paraphernalia, Winchesters of chloroform, and convulsively and vulgarly throwing strong epithets (I hope a passing relic) at the heads of the attendants; these he connects with anticipations of some mysterious yet terrible sequelæ, and with the last gasp asks me my *modus operandi*—to place him in that most horrible dilemma.

As requested, I will briefly describe my method, trusting that Mr. Forbes' terrible forebodings will never be realized. My appliances consist of an adjustable head collar, a leather muzzle, and two cavesson reins. The loop end of the rein can be used as a lasso to secure the colt, and subsequently used by an attendant to hold the upper leg up when operating. Adjust the head collar, then to this buckle the reins on both sides, have the colt led out on to grass, place your attendants at the end of both reins and at right angles to the colt, strap on the muzzle and commence chloroforming as you would in the recumbent position until the animal goes down, remove one of the reins and place the loop around the upper hind pastern and direct one of your attendants to pull the leg forward out of your way. Operate, and when finished take everything off the colt, and allow him to get up at his pleasure.

D. Pugh, F.R.C.V.S.

P.S.—The adjustable head-collar and muzzle can be had from Mr. James Outram, wholesale and retail leather merchant, Sevenoaks, for something between 20/- and 30/-. I mention this because so many have written to ask me where they can be obtained.

Sir,

When we are seriously told that from 3½ ounces to 6 ounces of chloroform are necessary in order to produce anæsthesia in a colt for the simple operation of castration, then indeed we are led to believe that some reasons must exist for such an extraordinary experience. Either the practitioner has adopted a very faulty method of administration, or he has had very little experience in this direction. Or, perhaps, it may be that Irish colts possess a special idiosyncrasy to the action of chloroform, as in my experience the average amount in grass-fed colts is one ounce. Of course, in thoroughbred colts and in adult animals this amount will not suffice, but I have never yet met with an instance in which 6 ounces were required.

I always cast the animal prior to administration, as my observations *re* the standing posture lead me to believe that the former method is far quicker. Even at a fee of 10/6 per head the trifling cost of a small amount of methylated chloroform will not reduce the above fee to any extent, while the advantages gained are so apparent that the intelligent owners of animals are quick to appreciate them. If one veterinary surgeon in a district employs chloroform for such operations it is remarkable how soon the others follow suit.

Overdosage and want of experience in administration are the factors which contribute to the drawbacks which are put forward on many occasions with reference to chloroform. On a recent occasion, while destroying a horse with this agent, I paid special attention to the corneal reflex and found that this reflex was present during the toxic stages; and even when respiration commenced to fail, by manipulating the cornea with the fingers, there were distinct movements of the eyelids. Hence I now pay no attention to the corneal reflex as an indication of the anæsthetic condition.

It is a well known fact that many horses during the toxic stages of chloroform, will move the fore and hind limbs in an involuntary manner. These movements may also occur during the anæsthetic stage when parts richly endowed with sensory nerves are manipulated. These movements are certainly not an invitation that further supply of the anæsthetic is required, and it is when the drug is pushed indiscrimately under such circumstances that the administrator is likely to have an anxious time.

Sequels to anæsthesia, such as choking, pulmonary affections, etc., I have never met with; possibly to these our Irish colts and horses are immune.

The remarkable statement *re* cocaine in the letter signed "Pluto" is so grotesque that one cannot believe the writer was serious. How a solution of cocaine applied to the skin in the region of the trachea and injected into the same part could cause a horse to drop down and die after a few quivers, is beyond the comprehension of any ordinary individual.

We may well enquire, What killed the horse? If the solution were injected into the jugular vein, we might suggest that some air had gained an entrance as well, and this would account for death. But in a region with such scanty vascularity as that over the trachea, such an occurrence would be a marvel for the most expert toxicologist. These remarkable statements, however, are often put forward with reference to both local and general anæsthesia, and and we are expected by the opponents of all forms of anæsthesia to accept them as arguments.

We are sufficiently sceptical to enquire for the actual cause of death in those instances that are attributed to chloroform. If careful autopsies were performed it would be found that in very few instances could chloroform be credited with producing the fatal result.—Yours, etc.

Cork, June 11. E. Wallis Hoare.

LOUPING-ILL AND BRAXY.

Dear Sir,

The report on Louping-ill and Braxy, which you are publishing in your columns, is exceedingly interesting, but, apart from its undeniably great scientific value, it seems to me to indicate a truth which may not be palatable to all of us, viz., the vast amount of work that still remains to be done before the veterinary profession can be really entitled to the position it claims.

Veterinary surgeons generally consider themselves to be the first—if not the only—authorities on *all* the domesticated animals in health and disease. With regard to horses, cattle, and perhaps dogs, they have good reason for complacency but when we come to sheep and pigs, the case is very different. What does the average practitioner know about the sheep and the pig?

Some knowledge of *a few* contagious diseases, some general information about dietetics, one well-recognised difference between the two animals with regard to castration—and then, I think, we have come to the end of the general practitioner's scientific lore respecting either.

Expert work—some of it, like that of this Committee, very good work—has been done upon the sheep and pig; but the ignorance of the average veterinarian regarding the physiology and pathology of both is lamentable.

Take, for instance, the statement of the Committee as to the scarcity of the intestinal flora of the healthy sheep. That ought to be a well known fact to all of us—it may be to a few—but to the rank and file of practitioners, has it not come as a surprise?

In almost the first paragraph of the report, the Committee turn aside for a moment from Louping-ill and Braxy, and strongly emphasise the ignorance which prevails regarding ovine diseases in general, and the great necessity for further investigation of them. They hint, too, that such investigation might have far-reaching effects in many departments of comparative pathology. If veterinary surgeons do not act upon that hint, it is, I think, pretty certain that medical men will do so.—Yours faithfully,

"Camden Town."

Communications and Papers received—Messrs. B. Freer, E. W. Hoare, C. A. Squair, J. Abson, T. W. Turner, E. Wynford, D. Pugh, G. A. Banham, H. L. Roberts, "Another Country Practitioner."

The Uitenhage Times, The Western Morning News.